answer the question of whether all protonymphs of this genus have similar peritremelike structures and, if so, should *Passalana* retain separate generic standing.

Acknowledgments

We would like to express our appreciation to Mrs. Virginia Truitt Mullen, Department of Entomology, University of Georgia, for the passalid beetles from which these mites were taken and to Dr. O. L. Cartwright, U. S. National Museum, Washington, D. C., for determinations of the beetles.

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NEW GENERA AND SPECIES OF NEOTROPICAL BLISSINAE (HEMIPTERA: LYGAEIDAE)[1]

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During the course of recent revisional work on the Chinch Bug subfamily Blissinae we have described and treated three new genera, *Patritiodemus* (Slater and Ahmad, 1968), *Praetorblissus* (Slater, 1966) and *Reticulatodemus* (Slater and Wilcox, 1966). In the present paper we describe an additional new species in each of these genera from specimens which have become available since the original publication of the new genera, describe an additional South American genus *Caveloblissus*, and comment upon the hitherto unknown macropterous form of *Heteroblissus anomilis* Barber.

Caveloblissus, n. gen.

Body subelongate, robust, nearly parallel sided; head and anterior pronotal lobe above strongly shining, posterior pronotal lobe from anterior margin of transverse impression to and including entire humeral area and scutellum dull pruinose, dividing line on pronotum between anterior shining and posterior pruinose areas

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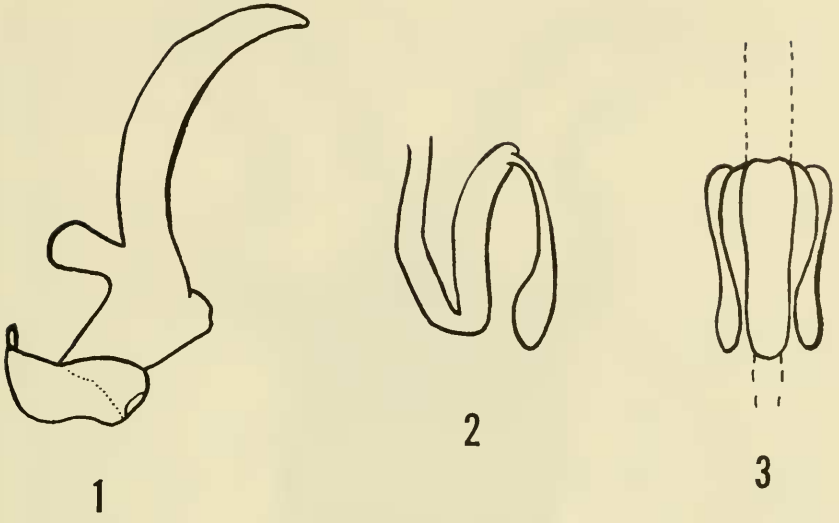

Figs. 1–3, *Caveloblissus americanus,* n. sp.: 1, clasper; 2 and 3, sperm reservoir.

sharp and straight transversely across pronotum; scutellum lacking shining areas even on median elevation; antennae relatively elongate with segments 2 and 3 almost completely terete, 2nd segment slightly enlarged at distal end, 4th segment strongly fusiform; hemelytra with apical corial margin concave basally, lateral corial margins conspicuously sinuate, membrane subhyaline, differing markedly in thickness and texture from clavus and corium; all femora moderately incrassate, mutic; fore coxal cavities open; head and thorax completely pruinose below; mesosternum bearing a deep median longitudinal furrow; metathoracic scent gland orifice small, rounded, auricular; fore tibiae linear, lacking a series of teeth, and completely non-fossorial, 1st and 2nd tarsal segments of nearly equal length, basal segment not enlarged and broadened; antenniferous tubercles bluntly truncate; claspers (fig. 1) short and stout, inner lobe set relatively far from base, sperm reservoir (figs. 2, 3) consisting of a central sclerotized rod and a pair of slender, elongate lobed lateral "wings."

Type-species: *Caveloblissus americanus,* n. sp.

This new genus is closely related to *Neoblissus* Bergroth and to the other Western Hemisphere species such as *leucopterus* (Say) and its allies, currently placed in the genus *Blissus* Burm. The genus is separable, however, by virtue of the shining head and anterior pronotal lobe. In *Neoblissus* and Western Hemisphere "Blissus" species the head and entire pronotum are completely pruinose. It is interesting that this sharp division of the pronotum into shining and pruinose areas parallels that of *Cavelerius* Distant (Oriental) and *Praeblissus* Barber (W. Hemisphere). This relationship, however, seems to us to be the result of independent specialization from a more generalized

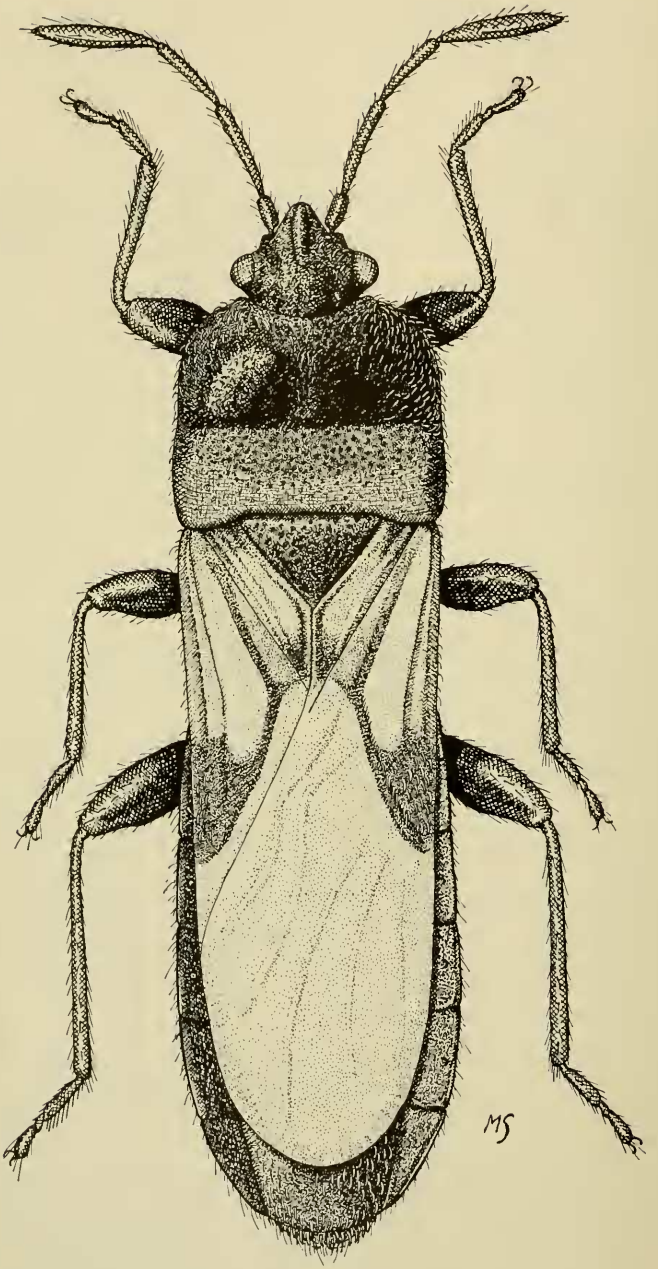

Fig. 4, *Caveloblissus americanus,* n. sp., dorsal view.

ancestor and not to indicate direct phylogenetic derivation of the three taxa. The evolutionary relationships of this genus will be more fully discussed in a subsequent paper on generic relationships in the subfamily.

Caveloblissus americanus, n. sp.
(Fig. 4)

Head, pronotum and scutellum black, pronotum becoming bright reddish brown across humeral area, tylus dark red-brown on anterior half; hemelytra sordid white, membrane subhyaline, clavus dark red-brown on basal third, corium with a very large dark red-brown apical patch, this dark coloration extending along entire apical corial margin and midway to base of cubital vein, an additional rectangular brown patch at inner angle of apical corial margin extending ⅓ way from apical margin inward, in contact both with cubital vein and claval suture and strongly contrasting with the pale flavescent corium adjacent; abdomen uniformly bright red-brown; all femora bright castaneous, tibiae and tarsi flavescent with a basal and apical brown band around tibiae, somewhat suffused with brown on fore tibiae; antennae reddish brown with proximal ⅔ of 2nd segment a light tan, apex of 3rd tarsal segment dark brown, strongly contrasting with flavescent color of preceding tarsal segments; head somewhat rugulose; pronotum and scutellum minutely indistinctly punctate; clothed above and below with a rather thick covering of decumbent sericeous hairs.

Head non-declivent, conspicuously convex across vertex, tylus subacuminate, extending midway to distal end of 1st antennal segment, eyes somewhat produced laterally, set very slightly away from antero-lateral pronotal angles, length head .46 mm, width head .67 mm, interocular space .40 mm; pronotum moderately convex, lateral margins nearly straight from base to central area of calli, then strongly mesally arcuately curved to anterior margin, posterior margin nearly straight across base of scutellum with very slightly produced posteriorly directed lobes laterad of scutellar base, transverse impression complete, shallow, width across humeri equal to width across calli, length pronotum .87 mm, width pronotum 1.22 mm; scutellum with a low inconspicuous median elevation on distal ⅔, length scutellum .40 mm, width scutellum .54 mm; hemelytra with lateral corial margins sinuately concave, membrane extending midway to posterior margin of 7th abdominal tergum, leaving abdominal connexiva exposed throughout; distance apex clavus—apex corium .76 mm, distance apex corium—apex abdomen 1.63 mm; labium relatively elongate, extending well onto mesosternum, distal end of 1st segment approaching or attaining base of head, 2nd segment attaining or nearly attaining base of prosternum, length labial segments (male paratype) I .33 mm, II .40 mm, III .36 mm, IV .53 mm, length antennal segments I .15 mm, II .40 mm, III .34 mm, IV .55 mm; total length 4.68 mm.

Holotype: Male. BRAZIL: Porto Alegre 25-VII-945 "on *Bambusa* sp." (R. Gomex Costa). In La Plata Museum.

Paratypes: BRAZIL: 1 female, same data as holotype; 1 male, 1 female, Sao Leopoldo (J. W. Stahl); 1 male Corumba. PARAGUAY: 1 female, Asuncion 4.X.16 (Vezenyi). In Hungarian National Museum, Stockholm Museum, U. S. National Museum (Drake coll.), and J. A. Slater collections.

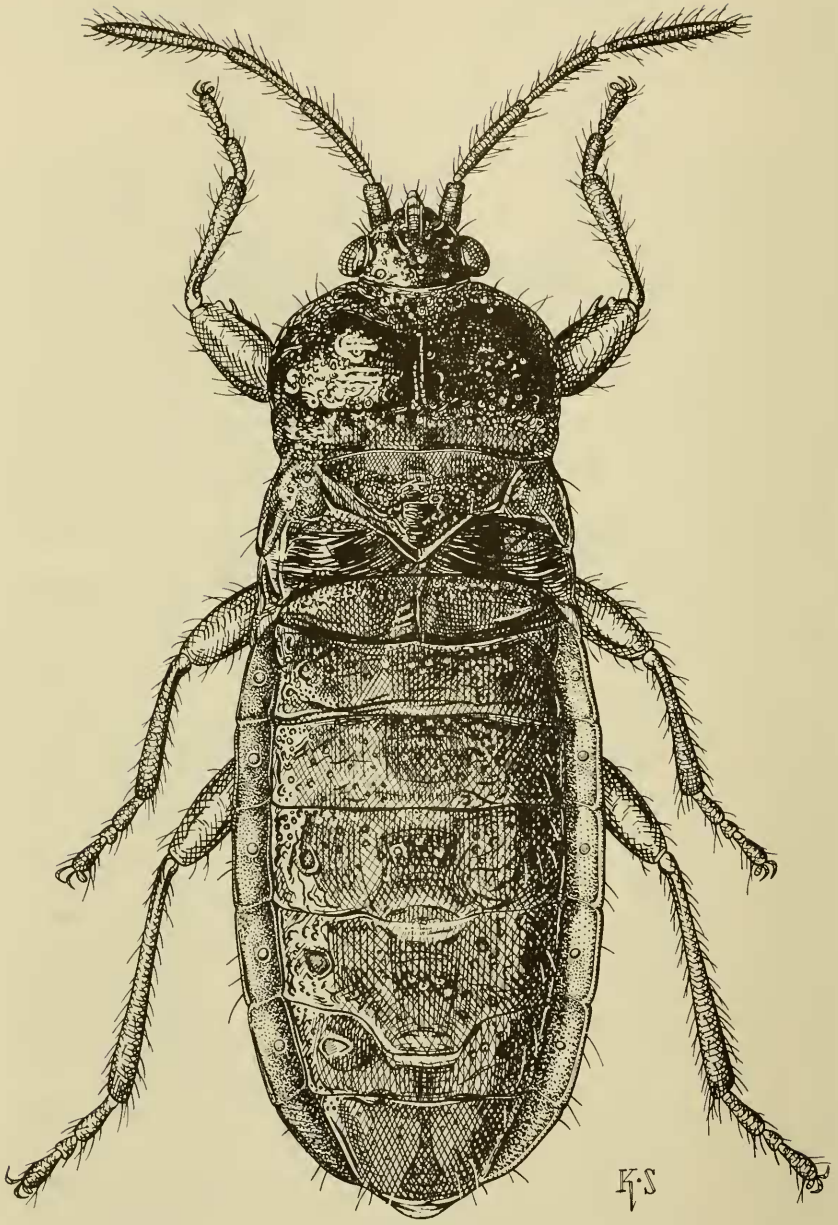

Fig. 5, *Praetorblissus gradus,* n. sp., dorsal view.

Praetorblissus gradus, n. sp.
(Fig. 5)

General coloration a nearly uniform dark castaneous red-brown becoming fuscous on antennae, scutellum, anterior pronotal lobe in region of calli and exposed metanotum; legs and connexivum a contrastingly pale yellowish ochraceous; body in large part glabrous or with only a few scattered hairs, more numerous along lateral margins of pronotum; head and anterior pronotal lobe smooth and impunctate, or nearly so, extreme anterior area of pronotum with numerous large, coarse punctures placed in a collar-like position, posterior pronotal lobe coarsely and deeply punctate, scutellum and abdominal terga with numerous small scattered punctures.

Head non-declivent, shallowly and irregularly rugulose, moderately convex, eyes sessile or nearly so, set very slightly away from antero-lateral pronotal angles, tylus extending to distal ⅓ of 1st antennal segment, length head .62 mm, width head .91 mm, interocular space .61 mm; pronotum prominently arcuate, the lateral margins nearly straight or even slightly expanded from humeral angles to area of calli, then sharply and convexly narrowing to anterior margin, calli strongly convex to form a depressed median furrow on anterior lobe, posterior margin nearly straight, at most very slightly concave, transverse impression obsolete, posterior lobe only ½ or slightly more than ½ length of anterior lobe, length pronotum 1.10 mm, width pronotum 1.67 mm; scutellum elevated and convex on basal half, with a low broad median elevation distally, length scutellum .61 mm, width scutellum 1.18 mm; hemelytra reduced to extremely tiny undifferentiated pads, extending along lateral margin only midway to posterior margin of metanotum, median angle reaching only midway to apex of scutellum, apical margin strongly concave, length wing pad .99 mm; metanotum completely exposed, coarsely and deeply transversely grooved; abdomen elongately ovoid, suture between abdominal terga 5 and 6 deeply curved caudad mesally, length abdomen 3.45 mm; metathoracic scent gland orifice broad, rounded distally, projected anteriorly as a broad finger-like process (fig. 6); fore femora strongly incrassate, armed below on distal third of each ventral surface with a large elongate sharp spine, additional short inconspicuous spines present distally, middle and hind femora mutic; labium slightly exceeding fore coxae, length labial segments I .42 mm, II .46 mm, III .42 mm, IV .34 mm. (approx.); antennae slender, terete, 4th segment very narrowly fusiform, length antennal segments I .23 mm, II .65 mm, III .65 mm, IV .84 mm; total length 4.68 mm.

Holotype: Male. PERU: Utcuyacu and Agua Dulce, Prov. of Tarma, Dept. of Junin III-1948 (F. Woytkowski) (donor Wm. Procter). In American Museum of Natural History.

Paratypes: 2 males, same data as holotype. 1 male, BOLIVIA: Cochabamba (Germain) (coll. Noualhier 1898). In Paris Museum, American Museum of Natural History and J. A. Slater collections.

This is the second species known in the genus *Praetorblissus* and it differs strikingly from the type species, *gigas* Slater. *P. gradus* is only about half the size of *gigas* and importantly it lacks spines on the middle and hind femora. This character is important in the phylogeny of the Blissinae and is often used to establish generic entities. How-

ever, in the present case it appears undesirable to place this new species in a distinct genus since it is so obviously closely related to the type species of *Praetorblissus* and the loss of spines on the middle and hind femora represents an evolutionary advance in the phylogeny of the genus which would be masked were we to not recognize the close relationship of these two species in every other respect. The condition of the head, pronotum, type of extreme wing brachyptery, shape of scent gland orifice (fig. 6), body texture, open coxal cavities, and even spines on the fore femur indicate the very close relationship between *gigas* and *gradus*, and there is no doubt that the two are very closely related to one another, *gradus* being the more recently evolved of the two. Slater (1966) has previously remarked on the possible relationships between *Praetorblissus* and *Heteroblissus* Barber. This new species makes this relationship even more compelling since *gradus* is about the size of *Heteroblissus anomilis* Barb., and both lack spines on the middle and hind femora. Nevertheless, *gradus* is not at all intermediate between *gigas* and *Heteroblissus anomilis*, being a typical *Praetorblissus* in all respects except the condition of the femoral spines mentioned above.

Heteroblissus anomilis Barber

Heteroblissus anomilis Barber, 1954, Rev. Brasil Biol. 14(2):221–3.
Heteroblissus anomilis: Ashlock and Lattin, 1963, Ann. Ent. Soc. Amer. 56: 694–703.
Heteroblissus anomilis: Slater, 1966, Univ. Conn. Occ. Pap., Biol. Sci. Ser. 1(1): 3–11.

This species, the only representative of the genus, has previously been known only from extremely micropterous specimens. Since the nature of the front wings is important in establishing generic relationships it is pleasing to report the presence of two fully macropterous females in the Leningrad Museum from Misiones, Loreto, Argentina.

The hemelytron of these macropters has the clavus and corium heavily sclerotized, strongly contrasting with the thin semi-hyaline membrane, the apical corial margin concave basally, but straight for a considerable portion of its length. The clavus bears a row of punctures along its inner margin and on either side of a raised calloused line near the claval suture. The corium bears a row of punctures on either side of the cubital vein and mesad of the strongly raised radial vein. The corium on the lateral half is of a contrasting thickness and composition to the inner half. The entire dorsal as well as the ventral surface is subshining, completely devoid of pruinose areas. The membrane is broadly rounded and extends distad almost to the posterior margin of the sixth abdominal tergum. The genus is an interesting one in that it possesses what appears to be a stridulatory area on the abdominal sterna (see Ashlock and Lattin, *ibid.*).

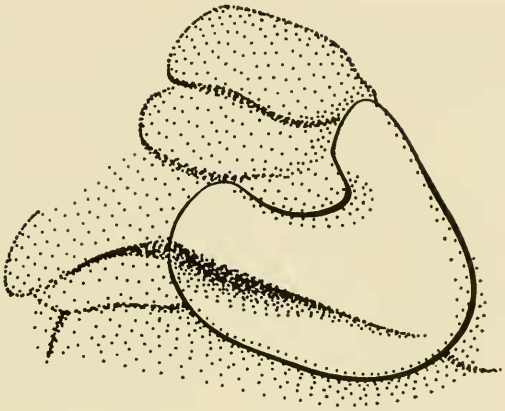

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Fig. 6, *Praetorblissus gradus,* n. sp., scent gland orifice.

As is so frequently the case with species exhibiting wing polymorphism, the pronotal shape of the macropterous form is quite unlike that of the brachypterous specimens. In the former the pronotum is more elongate, broader across the humeri than across the calli and with at most a lateral trace of an obsolete transverse impression.

H. anomilis was originally described from southern Brazil. In addition to the Loreto locality mentioned above we have examined material from San Antonio in Misiones, Argentina.

Reticulatodemus orbiculoides, n. sp.

Head, anterior pronotal lobe and scutellum black with apex of tylus, scutellar carina and posterior pronotal lobe bright red-brown to castaneous; clavus and corium testaceous, suffused with dusky coloration on apical ⅓ of corium, membrane broadly sordid white-margined with brown veins and a large elongate brown central macula covering greater portion of membrane disc, but not extending to lateral or apical margins; abdomen uniformly red-brown; all femora bright reddish brown with tibiae and tarsi flavescent, antennal segments 1 and 2 red brown (3 and 4 missing); central area of head, large triangular and mesally contiguous patches on calli, posterior ⅓ of pronotum, and scutellar carina shining, remainder of dorsal surface and entire thoracic venter a strongly contrasting pruinose gray; pronotum punctate, posterior pronotal band smooth and glabrous; otherwise sparsely clothed with short, decumbent somewhat scale-like sericeous hairs.

Head slightly convex across vertex, non-declivent, tylus prominent, considerably exceeding juga but short, extending half way to distal end of 1st antennal segment, eyes flattened against head surface to form nearly evenly curving lateral

margins, set well away from antero-lateral pronotal angles, antenniferous tubercles strongly hooked, length head .61 mm, width head .80 mm, interocular space .53 mm; pronotum moderately convex, area across humeri slightly more swollen than anterior lobe, lateral margins sinuately narrowing from humeral angles to anterior margin, transverse impression very shallow, broad, complete, posterior margin slightly and evenly concave, a weak, broad punctate median groove between calli on anterior lobe, length pronotum 1.06 mm, width pronotum 1.25 mm; scutellum with a prominent shining median carina, length scutellum .53 mm, width scutellum .58 mm; hemelytra with lateral corial margins nearly parallel, evenly narrowing to expose connexiva, membrane reaching anterior margin of 7th abdominal tergum, distance apex clavus—apex corium 1.14 mm, distance apex corium—abdomen 2.85 mm; labium obscured, apparently extending to fore coxae; fore femora strongly incrassate, ventral surface narrowing to a subacute expanded ridge, armed below on distal ⅓ with a single large prominent acute spine; antennae stout, 2nd segment terete, length antennal segments I .19 mm, II .49 mm; total length 7.08 mm.

Holotype: Female. BRAZIL: Esp. Santo, 98 (Staud). In Hungarian National Museum.

This species is very closely related to *R. orbiculatus* Slater and Wilcox, the two species being unique within the genus in possessing similar "flattened" eyes and an ovoid head shape. However, the head and eyes of *orbiculoides* are significantly broader than are those of *orbiculatus*, and this gives a less "hemispherical" bulbous appearance to the head and can be expressed as a ratio of head width to interocular width (1.51 *orbiculoides*, 1.44 *orbiculatus*). The two species have pronota almost identical in shape, color and texture. *R. orbiculoides* has the most minute and obscure wing reticulation of any species in this genus. There are tiny roundish cells visible on the membrane, and only vestiges of the anastomosing lines usually present on the clavus and corium. *R. orbiculoides* also lacks the black points that are present at the caudo-lateral angles of abdominal connexiva 4 through 7 in *orbiculatus*, and has the entire 2nd antennal segment dark red-brown rather than strongly darkened on the distal half as in *orbiculatus*.

We have recently examined an additional female of *orbiculatus* in the Leningrad Museum from Rio Caqueta, Colombia VII-1926 (Woronov).

Patritiodemus delicatus, n. sp.

Body moderately elongate, robust, sub-linear; dorsal surface uniformly pruinose, including entire humeral area of pronotum, an irregular "comma-shaped" transverse shining band on calli and another anterior to ocelli; head and anterior pronotal lobe dark gray, pronotal collar, posterior pronotal lobe, tylus and scutellum bright reddish tan, abdomen red brown with connexiva a strongly contrasting yellow, hemelytra pale testaceous, veins and apical ⅓ of corium suffused with darker tan, legs and antennae uniformly very light yellow, 3rd and 4th antennal segments very lightly suffused with light brown, head and pronotum

finely and evenly punctate; scutellum with irregular relatively coarse punctures laterad of median elevation, scattered punctures present on clavus and corium; sparsely clothed, particularly laterad, with long semi-erect yellowish hairs.

Head broad, declivent, moderately convex across vertex, eyes protrudent, set well away from antero-lateral pronotal angles on shelf-like head extensions, juga short, blunt, tylus extending ⅓ distance to distal end of 1st antennal segment, length head .60 mm, width head .91 mm, interocular space .52 mm; pronotum with lateral margins slightly sinuate, narrowing strongly and evenly from humeral angles to anterior margin, posterior margin moderately concave with shallow caudo-lateral lobes produced laterad of scutellum, transverse impression broad, shallow, nearly obsolete, length pronotum .99 mm, width pronotum 1.30 mm; scutellum with a low median elevation on distal ⅔, length scutellum .51 mm, width scutellum .61 mm; hemelytra with lateral corial margins slightly sinuate, narrowing opposite claval commissure then abruptly widened posteriorly, membrane bluntly and evenly rounded at apex, covering anterior ⅓ of 7th abdominal tergum, distance apex clavus—apex corium 1.25 mm, distance apex corium—apex abdomen 2.04 mm; fore femora very slender, scarcely incrassate, armed below on distal ⅓ with a single short sharp spine; metathoracic scent gland orifice short, rounded, auricular, tilted slightly cephalad; labium reaching posterior margin of prosternum, 2nd segment surpassing base of head by ½ its length, length labial segments I .34 mm, II .30 mm, III .23 mm, IV .27 mm; antennae moderately elongate, slender, segments 2 and 3 terete, 4 narrowly fusiform, length antennal segments I .23 mm, II .69 mm, III .68 mm, IV .87 mm; total length 6.12 mm.

Holotype: Female. BRAZIL: Chapada "Acc. No. 2966," Oct. In Carnegie Museum.

Paratypes: 1 female, same data as holotype; 1 female, same except "Nov." In Carnegie Museum and J. A. Slater collections.

In the key to species of *Patritiodemus*, *P. delicatus* runs to *P. albomaculatus*, but is readily distinguishable from the latter by virtue of the much longer labium which reaches the base of the prosternum in *delicatus*, whereas it does not even attain the fore coxae in *albomaculatus*. *P. delicatus* is, in fact, unique within the genus *Patritiodemus* on this character, as all of the other species have the labium very short and at most attaining the fore coxae. The very delicate non-incrassate fore femora, lack of a diffuse central dark area on the hemelytra and generally pale coloration are all distinctive features.

Nevertheless, the protrudent nearly "stalked" eyes, presence of a fore femoral spine, and completely pruinose pronotum seem to us to warrant its inclusion in the genus *Patritiodemus*.

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Museum), Dr. I. M. Kerzhner (Leningrad Museum), Dr. A. Villiers (Paris Museum), Dr. E. Kjellander (Stockholm Museum) and Dr. R. C. Froeschner (U. S. National Museum).

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A REDESCRIPTION OF CULEX (ACALLEOMYIA) OBSCURUS (LEICESTER) (DIPTERA: CULICIDAE)[1]

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Culex (*Acalleomyia*) *obscurus* (Leicester) has been poorly characterized since its original description. Although Leicester (1908) recognized the highly modified male terminalia as being one of the outstanding distinguishing features of this species, his description was rather vague and was not accompanied by an illustration. Edwards (1922) illustrated the male terminalia, but the specimen which he used was apparently mounted in a somewhat twisted position. As a result, the representation of most of the structures is either misleading, incomplete, or erroneous. No subsequent author has attempted to rectify these descriptions, nor have the immature stages been described.

The following redescription is based on the type series in the British Museum (Natural History); on specimens received from Dr. S. Ramalingam, University of Kuala Lumpur, accessioned to the U. S. National Museum; on material collected by Dr. D. H. Colless on loan from the British Museum; and on specimens from the Institute for Medical Research, Kuala Lumpur, deposited in the U. S. National

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